AGGCGGCAGCAGCTGCAGCTGACCTTGCAGCTTGGCGGAATGGACTTGGCCTCACAACCTGCTGTTTCTT
CTTACCATTTCCATCTTCCTGGGGCTGGGCCAGCCCAGGAGCCCCAAAAGCAAGAGAAGGGGCAAGGGCG
GCCTGGGCCCCTGGCCCTCACCAGGTGCCACTGGACCTGGTGTCACGGATGAAACCGTATGCCC
GCATGGAGGAGTATGAGAGGAACATCGAGGAGATGGTGGCCCAGCTGAGGAACAGCTCAGAGCTGGCCCAG
AGAAAGTGTGAGGTCAACTTGCAGCTGTGGATGTCCAACAAGAGGAGCCTGTCTCCCTGGGGCTACAGCAT
CAACCACGACCCCAGCCGTATCCCCGTGGACCTGCCGGAGGCACGGTGCCTGTTCTCGGCCTGTGTAACC
CCTTCACCATGCAGGAGACCGCAGCATGGTGAGCGTGCCGGTGTTCAGCCAGGTTCCTGTGCGCCGC
CTCTGCCCGCCACCGCCCCGCACAGGGCCTTGCCGCCAGCGCGCAGTCATGGAGACCATCGCTGTGGGCTG
CACCTGCATCTTCTGAATCACCTGGCCCAGAAGCCAGGCCAGCCCGAGACCATCCTCTTTGCACCTTT
GTGCCAAGAAAGGCCTATGAAAAGTAAACACTGACTTTTGAAAGCAAG

MDWPHNLLFLLTISIFLGLGQPRSPKSKRKGQGRPGPLAPGPHQVPLDLVSRMKPYARMEEYERNIEEMVA QLRNSSELAQRKCEVNLQLWMSNKRSLSPWGYSINHDPSRIPVDLPEARCLCLGCVNPFTMQEDRSMVSVP VFSQVPVRRRLCPPPPRTGPCRQRAVMETIAVGCTCIF

 ${\tt MTLLPGLLFLTWLHTCLAHHDPSLRGHPHSHGTPHCYSAEELPLGQAPPHLLARGAKWGQALPVALVSSLE}$ ${\tt TAALNSVRLLQSLLVLRRRPCSRDGSGLPTPGAFAFHTEFIHVPVGCTCVLPRSV}$

Signal peptide:

Amino acids 1-18

Tyrosine kinase phosphorylation site:

Amino acids 112-121

N-myristoylation sites:

Amino acids

Leucine zipper pattern:

32-38;55-61;133-139 Amino acids 3-25

Homologous region to IL-17:

Amino acids 99-195

 $\tt GTGCCCGACTTGTGACTGAGTGTCCCAGCATGTACCAGGTCAGTGCAGAGGGCTGCCTGAGGGCT$ ${\tt GGACAGTTCTCATTAGCCTTTTCCTACAGGTGGTTGCATTCTTGGCAATGGTCATGGGAACCCACACCT}$ ACAGCCACTGGCCCAGCTGCCCCCAGCAAAGGGCAGGACACCTCTGAGGAGCTGCTGAGGTGGAGCACT GTGCCTGTGCCTCCCCTAGAGCCTGCTAGGCCCAACCGCCACCCAGAGTCCTGTAGGGCCAGTGAAGATGGA CCCCTCAACAGCAGGCCCATCTCCCCCTGGAGATATGAGTTGGACAGAGACTTGAACCGGCTCCCCCAGGA GCAACTCGGAGCTGCTCTACCACAACCAGACTGTCTTCTACAGGCGGCCATGCCATGGCGAGAAGGGCACC ${\tt GATGGGCTAGCCGGACCTGGTAGGAGGCTGGTCCCTTTTTGGGAAACCTGGAGCCAGGTGTACAACCACTTG}$ $\tt CCATGAAGGGCCAGGATGCCTGGGCCCCTGTGAAGTGCTGTCTGGAGCAGCAGGATCCCGGGAC$ ${\tt AGGATGGGGGGCTTTGGGGAAAACCTGCACTTCTGCACATTTTGAAAAGAGCAGCTGCTTAGGGCCGC}$ ${\tt CGGAAGCTGGTGTCATTTTCTCTCAGGAAAGGTTTTCAAAGTTCTGCCCATTTCTGGAGGCCACCA}$ $\tt CTCCTGTCTTCTCTTTTCCCATCCCTGCTACCCTGGCCCAGCACAGGCACTTTCTAGATATTTCCCC$ $\tt CTTGCTGGAGAAGAAGAGCCCCTGGTTTTATTTGTTTACTCATCACTCAGTGAGCATCTACTTTGG$ $\tt GTGCATTCTAGTGTAGTTACTAGTCTTTTGACATGGATGATTCTGAGGAGGAAGCTGTTATTGAATGTATA$ GAGATTTATCCAAATAAATATCTTTATTTAAAAATGAAAAA

MRERPRLGEDSSLISLFLQVVAFLAMVMGTHTYSHWPSCCPSKGQDTSEELLRWSTVPVPPLEPARPNRHP ESCRASEDGPLNSRAISPWRYELDRDLNRLPQDLYHARCLCPHCVSLQTGSHMDPRGNSELLYHNQTVFYR RPCHGEKGTHKGYCLERRLYRVSLACVCVRPRVMG

Signal peptide:

Amino acids 1-32

N-glycosylation site:

Amino acids 136-140

Tyrosine kinase phosphorylation site:

Amino acids 127-135

N-myristoylation sites:

Amino acids 44-50;150-156

CCGGCAGGGGCAGGCCCGCCGCCCCCCCCCCCCCCACCAACCTGCGCAGCGTGTCGCCCTGGGC $\tt CTGCACCTGCGTCCCCGAGCCGGAGAAGGACGCAGCATCAACTCCAGCATCGACAAACAGGGCGCCA$ AGCTCCTGCTGGGCCCCAACGACGCCCCGCTGGCCCCTGAGGCCGGTCCTGCCCCGGGAGGTCTCCCCGG ${\tt GAGCAAACCAAGTGCCGGAGCACCAGCGCCCTTTCCATGGAGACTCGTAAGCAGCTTCATCTGACACGG}$ GGCTGCTGCGGGTGCAGGGCGTGACTCACCGCTGGGTGCTTGCCAAAGAGATAGGGACGCATATGCTTTTT AAAGCAATCTAAAAATAATAAGTATAGCGACTATATACCTACTTTTAAAATCAACTGTTTTGAATAGA ${\tt GGCAGAGCTATTTTATATTATCAAATGAGAGCTACTCTGTTACATTTCTTAACATATAAACATCGTTTTTT}$ ${\tt ACTTCTTCTGGTAGAATTTTTTAAAGCATAATTGGAATCCTTGGATAAATTTTGTAGCTGGTACACTCTGG}$ TTCCTTCCACTGAAGGTCTTCACGGGCCTCCAGGTGGACCAAAGGGATGCACAGGCGGCTCGCATGCCCCA ${\tt GGGCCAGCTAAGAGTTCCAAAGATCTCAGATTTGGTTTTAGTCATGAATACATAAACAGTCTCAAACTCGC}$ ${\tt ACAATTTTTCCCCCTTTTGAAAGCCACTGGGGCCAATTTGTGGTTAAGAGGTGGTGAGATAAGAAGTGGA}$ ${\tt ACGTGACATCTTTGCCAGTTGTCAGAAGAATCCAAGCAGGTATTGGCTTAGTTGTAAGGGCTTTAGGATCA}$ ${\tt GGCTGAATATGAGGACAAAGTGGGCCACGTTAGCATCTGCAGAGATCAATCTGGAGGCTTCTGTTTCTGCA}$ ${\tt AAAAGTTAGTAGTTCTTTTTTAAATCATTAAAAGAGGCTTGCTGAAGGAT}$

 $\label{thm:condition} $$\operatorname{MLVAGFLLALPPSWAAGAPRAGRRPARPRGCADRPEELLEQLYGRLAAGVLSAFHHTLQLGPREQARNASC}$$ PAGGRPGDRRFRPPTNLRSVSPWAYRISYDPARYPRYLPEAYCLCRGCLTGLFGEEDVRFRSAPVYMPTVV LRRTPACAGGRSVYTEAYVTIPVGCTCVPEPEKDADSINSSIDKQGAKLLLGPNDAPAGP$

Signal peptide:

Amino acids 1-15

N-glycosylation sites:

Amino acids 68-72;181-185

Tyrosine kinase phosphorylation site:

Amino acids 97-106

N-myristoylation sites:

Amino acids 17-23;49-55;74-80;

118-124

Amidation site:

Amino acids 21-25

 ${\tt MTVKTLHGPAMVKYLLLSILGLAFLSEAAARKIPKVGHTFFQKPESCPPVPGGSMKLDIGIINENQRVSMS} \\ RNIESRSTSPWNYTVTWDPNRYPSEVVQAQCRNLGCINAQGKEDISMNSVPIQQETLVVRRKHQGCSVSFQ\\ LEKVLVTVGCTCVTPVIHHVQ$

Signal sequence:

Amino acids 1-30

N-glycosylation site:

Amino acids 83-86

N-myristoylation sites:

Amino acids 106-111;136-141

 $\tt CCGGCG\underline{\textbf{A}}\underline{\textbf{T}}\underline{\textbf{G}} \texttt{TCGCTCGTGCTA}\underline{\textbf{A}}\underline{\textbf{GCCTGGCCGCGCTGTGCA}\underline{\textbf{GGCCGTA}}\underline{\textbf{CCCCGA}}\underline{\textbf{GAGCCGA}}\underline{\textbf{CCGT}}$ ${\tt TCAATGTGGCTCTGAAACTGGGCCATCTCCAGAGTGGATGCTACAACATGATCTAATCCCCGGAGACTTGA}$ GGGACCTCCGAGTAGAACCTGTTACAACTAGTGTTGCAACAGGGGACTATTCAATTTTGATGAATGTAAGC TGGGTACTCCGGGCAGATGCCAGCATCCGCTTGTTGAAGGCCACCAAGATTTGTGTGACGGGCAAAAGCAA ${\tt CTTCCAGTCCTACAGCTGTGTGAGGTGCAATTACACAGAGGCCTTCCAGACTCAGACCAGACCCTCTGGTG}$ ${\tt GTAAATGGACATTTTCCTACATCGGCTTCCCTGTAGAGCTGAACACAGTCTATTTCATTGGGGCCCATAAT}$ ${\tt ATTCCTAATGCAAATATGAATGAAGATGGCCCTTCCATGTCTGTGAATTTCACCTCACCAGGCTGCCTAGA}$ $\tt CCACATAATGAAATATAAAAAAAGTGTGTCAAGGCCGGAAGCCTGTGGGATCCGAACATCACTGCTTGTA$ ${\tt AGAAGAATGAGGAGACAGTGAACTTCACAACCACTCCCCTGGGAAACAGATACATGGCTCTTATC}$ ${\tt GGTGATTCCAGTGACTGGGGATAGTGAAGGTGCTACGGTGCAGCTGACTCCATATTTTCCTACTTGTGGCA}$ GCGACTGCATCCGACATAAAGGAACAGTTGTGCTCTGCCCACAAACAGGCGTCCCTTTCCCTCTGGATAAC ${\tt AACAAAAGCAAGCCGGGAGGCTGGCTGCTCTCCTGCTGCTGCTGGTGGCCACATGGGTGCTGGT}$ ${\tt GGCAGGGATCTATCTAATGTGGAGGCACGAAAGGATCAAGAAGACTTCCTTTTCTACCACCACACTACTGC}$ ${\tt CCCCCATTAAGGTTCTTGTGGTTTACCCATCTGAAATATGTTTCCATCACAAATTTGTTACTTCACTGAA}$ ${\tt TTTCTTCAAAACCATTGCAGAAGTGAGGTCATCCTTGAAAAGTGGCAGAAAAAGAAAATAGCAGAGATGGG}$ $\tt CTTGCCTTTAACCTTTTCTGCAGTGATCTAAGAAGCCAGATTCATCTGCACAAATACGTGGTGGTCTACTT$ ${\tt TAGAGAGATTGATACAAAGACGATTACAATGCTCTCAGTGTCTGCCCCAAGTACCACCTCATGAAGGATG}$ $\tt CCACTGCTTTCTGTGCAGAACTTCTCCATGTCAAGCAGCAGGTGTCAGCAGGAAAAAGATCACAAGCCTGC$ CACGATGGCTGCTCCTTGTAG

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FIGURE 12

MSLVLLSLAALCRSAVPREPTVQCGSETGPSPEWMLQHDLIPGDLRDLRVEPVTTSVATGDYSILMNVSWV LRADASIRLLKATKICVTGKSNFQSYSCVRCNYTEAFQTQTRPSGGKWTFSYIGFPVELNTVYFIGAHNIP NANMNEDGPSMSVNFTSPGCLDHIMKYKKKCVKAGSLWDPNITACKKNEETVEVNFTTTPLGNRYMALIQH STIIGFSQVFEPHQKKQTRASVVIPVTGDSEGATVQLTPYFPTCGSDCIRHKGTVVLCPQTGVPFPLDNNK SKPGGWLPLLLLSLLVATWVLVAGIYLMWRHERIKKTSFSTTTLLPPIKVLVVYPSEICFHHTICYFTEFL QNHCRSEVILEKWQKKKIAEMGPVQWLATQKKAADKVVFLLSNDVNSVCDGTCGKSEGSPSENSQDLFPLA FNLFCSDLRSQIHLHKYVVVYFREIDTKDDYNALSVCPKYHLMKDATAFCAELLHVKQQVSAGKRSQACHD GCCSL

Signal sequence:

Amino acids 1-14

Transmembrane domain:

Amino acids 290-309

N-glycosylation sites:

Amino acids 67-70;103-106;156-159;

183-186;197-200;283-286

cAMP- and cGMP-dependent protein kinase phosphorylation sites:

Amino acids 228-231;319-322

N-myristoylation site:

Amino acids 116-121

Amidation site:

Amino acids 488-491

122

FIGURE 13

ACACTGGCCAAACAAAACGAAAGCACTCCGTGCTGGAAGTAGGAGGAGGAGTCAGGACTCCCAGGACAGAG $\tt GCCACCTGGCACCTAGAAG\underline{\textbf{ATG}} \tt CCTGTGCCCTGGTTCTTGCTGTCCTTGGCACTGGGCCGAAGCCCAGTGG$ ${\tt TGGGACAGTGACATACTCTGCCTGGGGACATCGTGCCTGCTCCGGGCCCCGTGCTGGCGCCTACGCA}$ ${\tt ACTTGGCCGTGCATGGGCACTGGGAAGAGCCTGAAGATGAGGAAAAGTTTGGAGGAGCAGCTGACTCAGGG}$ $\tt GTGGAGGAGCCTAGGAATGCCTCTCCAGGCCCAAGTCGTGCTCCTTCCAGGCCTACCCTACTGCCCG$ ${\tt CTGCGTCCTGCTGGAGGTGCAAGTGCCTGCTGCCCTTGTGCAGTTTGGTCAGTCTGTGGGCTCTGTGGTATAT}$ ${\tt GACTGCTTCGAGGCTGCCCTAGGGAGTGAGGTACGAATCTGGTCCTATACTCAGCCCAGGTACGAGAAGGA}$ ${\tt TGGTTCTGAATGTCTCTGAGGAGCAGCACTTCGGCCTCTCCCTGTACTGGAATCAGGTCCAGGGCCCCCCA}$ AAACCCCGGTGGCACAAAAACCTGACTGGACCGCAGATCATTACCTTGAACCACACAGACCTGGTTCCCTG ${\tt CCTCTGTATTCAGGTGTGGCCTCTGGAACCTGACTCGGTTAGGACGAACATCTGCCCCTTCAGGGAGGACCC}$ $\tt CTAACCTCTGTGTTCAGGTGAACAGCTCGGAGAAGCTGCAGCTGCAGGAGTGCTTGTGGGCTGACTCCCTG$ ${\tt GGGCCTCTCAAAGACGATGTGCTACTGTTGGAGACACGAGGCCCCCAGGACAACAGATCCCTCTGTGCCTT}$ $\tt CCTCATCCTTCTCAAAAAGGATCACGCGAAAGGGTGGCTGAGGCTCTTGAAACAGGACGTCCGCTCGG$ ${\tt GGCGCCTGGCGTCGGCCTGTGCCGCTGCGCGTGGCCGTAGACCTGTGGAGCCGTCGTGAACT}$ GAGCGCGCAGGGCCCGTGGCTTGGTTTCACGCGCAGCCGCCAGACCCTGCAGGAGGGCGGCGTGGTGG GCCCGGCAGCTACGTGGGGGCCTGCTTCGACAGGCTGCTCCACCCGGACGCCGTACCCGCCCTTTTCCGCA CCGTGCCCGTCTTCACACTGCCCTCCCAACTGCCAGACTTCCTGGGGGCCCTGCAGCAGCCTCGCGCCCCG CTTAAATAAAGGCAGACGCTGTTTTTCTAAAAAAA

 ${\tt MPVPWFLLSLALGRSPVVLSLERLVGPQDATHCSPGLSCRLWDSDILCLPGDIVPAPGPVLAPTHLQTELV}$ $\tt LRCQKETDCDLCLRVAVHLAVHGHWEEPEDEEKFGGAADSGVEEPRNASLQAQVVLSFQAYPTARCVLLEV$ ${\tt QVPAALVQFGQSVGSVVYDCFEAALGSEVRIWSYTQPRYEKELNHTQQLPALPWLNVSADGDNVHLVLNVS}$ ${\tt EEQHFGLSLYWNQVQGPPKPRWHKNLTGPQIITLNHTDLVPCLCIQVWPLEPDSVRTNICPFREDPRAHQN}$ ${\tt LWQAARLRLLTLQSWLLDAPCSLPAEAALCWRAPGGDPCQPLVPPLSWENVTVDKVLEFPLLKGHPNLCVQ}$ ${\tt VNSSEKLQLQECLWADSLGPLKDDVLLLETRGPQDNRSLCALEPSGCTSLPSKASTRAARLGEYLLQDLQS}$ GQCLQLWDDDLGALWACPMDKYIHKRWALVWLACLLFAAALSLILLLKKDHAKGWLRLLKQDVRSGAAARG ${\tt RAALLLYSADDSGFERLVGALASALCQLPLRVAVDLWSRRELSAQGPVAWFHAQRRQTLQEGGVVVLLFSP}$ ${\tt GAVALCSEWLQDGVSGPGAHGPHDAFRASLSCVLPDFLQGRAPGSYVGACFDRLLHPDAVPALFRTVPVFT}$ $\verb|LPSQLPDFLGALQQPRAPRSGRLQERAEQVSRALQPALDSYFHPPGTPAPGRGVGPGAGPGAGDGT| \\$

signal sequence:

Amino acids 1-20

transmembrane domain:

Amino acids 453-473

N-glycosylation sites:

Amino acids 118-121;186-189;198-201;

211-214;238-241;248-251;334-337;

357-360;391-394

Glycosaminoglycan attachment site: Amino acids 583-586

cAMP- and cGMP-dependent protein kinase phosphorylation site:

Amino acids 552-555

N-myristoylation sites:

Amino acids 107-112;152-157;319-324;

438-443;516-521;612-617;692-697;

696-701;700-705

 $\tt CGCTGTCCTCTGGCCTCCCACACGGATGACAGTTTCACTGGAAGTTCTGCCTATATCCCTTGCCGCACCTG$ ${\tt GTGGGCCCTCTTCTCCACAAAGCCTTGGTGTGTGCGAGTCTGGCACTGTTCCCGCTGTTTGTGCCAGCATCTGC}$ GAGGACACTGTGAGGCGCAAAAAATGTCCCTTCCAGAGCTGGCCAGAAGCCTATGGCTCGGACTTCTGGAA GTCAGTGCACTTCACTGACTACAGCCAGCACTCAGATGGTCATGGCCCTGACACTCCGCTGCCCACTGA ${\tt AGCTGGAAGCTGCCCTCTGCCAGAGGCACGACTGGCATACCCTTTGCAAAGACCTCCCGAATGCCACGGCT}$ ${\tt CGAGAGTCAGATGGGTATGTTTTGGAGAAGGTGGACCTGCACCCCAGCTCTGCTTCAAGTTCTCTTT}$ ${\tt TGGAAACAGCCATGTTGAATGCCCCCACCAGACTGGGTCTCTCACATCCTGGAATGTAAGCATGGATA}$ $\tt CCAGGCTTGGGGCAGGACACTTTGGTGCCCCCGTGTACACTGTCAGCCAGGCCCGGGGCTCAAGCCCAGT$ GGAGCGGCGCCGACCTTCGCCCGGTCAGCGGCCCCGACCCCGCGCCCGCGCCCTGCTCGCCCTGCTCCAC GCTGCGCGCCTGCCGCGTACCGCCTGCTGCGCGACCTGCCGCGTCTGCTGCGGGCGCTGGACGCGCGC

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FIGURE 16

 ${\tt MGSSRLAALLLPLLLIVIDLSDSAGIGFRHLPHWNTRCPLASHTDDSFTGSSAYIPCRTWWALFSTKPWCV}$ RVWHCSRCLCQHLLSGGSGLQRGLFHLLVQKSKKSSTFKFYRRHKMPAPAQRKLLPRRHLSEKSHHISIPS ${\tt PDISHKGLRSKRTQPSDPETWESLPRLDSQRHGGPEFSFDLLPEARAIRVTISSGPEVSVRLCHQWALECE}$ ELSSPYDVQKIVSGGHTVELPYEFLLPCLCIEASYLQEDTVRRKKCPFQSWPEAYGSDFWKSVHFTDYSQH ${\tt TQMVMALTLRCPLKLEAALCQRHDWHTLCKDLPNATARESDGWYVLEKVDLHPQLCFKFSFGNSSHVECPH}$ QTGSLTSWNVSMDTQAQQLILHFSSRMHATFSAAWSLPGLGQDTLVPPVYTVSQARGSSPVSLDLIIPFLR ${\tt PGCCVLVWRSDVQFAWKHLLCPDVSYRHLGLLILALLALLTLLGVVLALTCRRPQSGPGPARPVLLLHAAD}$ ${\tt SEAQRRLVGALAELLRAALGGGRDVIVDLWEGRHVARVGPLPWLWAARTRVAREQGTVLLLWSGADLRPVS}$ GPDPRAAPLLALLHAAPRPLLLLAYFSRLCAKGDIPPPLRALPRYRLLRDLPRLLRALDARPFAEATSWGR LGARQRRQSRLELCSRLEREAARLADLG

Signal peptide:

Amino acids 1-23

Transmembrane domain:

Amino acids 455-472

N-glycosylation sites:

Amino acids 318-322;347-351;364-368

Glycosaminoglycan attachment site: Amino acids 482-486

cAMP- and cGMP-dependent protein kinase phosphorylation sites:

Amino acids 104-108;645-649

Tyrosine kinase phosphorylation site:

Amino acids 322-329

N-myristoylation sites:

Amino acids 90-96;358-364;470-476

Eukaryotic cobalamin-binding proteins:

Amino acids 453-462

GAAACAGTGGGCTGTACAACATCACCTTCAAATATGACAATTGTACCACCTACTTGAATCCAGTGGGGAAG ${\tt CATGTGATTGCTGACGCCAGAATATCACCATCAGCCAGTATGCTTGCCATGACCAAGTGGCAGTCACCAT}$ ${\tt TCTTTGGTCCCCAGGGGCCCTCGGCATCGAATTCCTGAAAGGATTTCGGGTAATACTGGAGGAGCTGAAGT}$ $\tt CGGAGGGAAGACAGTGCCAACAACTGATTCTAAAGGATCCGAAGCAGCTCAACAGTAGCTTCAAAAGAACT$ ${\tt GGAATGGAATCTCAACCTTTCCTGAATATGAAATTTGAAACGGATTATTTCGTAAAGGTTGTCCCTTTTCC}$ ${\tt TTCCATTAAAAACGAAAGCAATTACCACCCTTTCTTCTTTAGAACCCGAGCCTGTGACCTGTTGTTACAGC}$ ${\tt AGGTGTCCTTCGACCACGCACCGCATGGCTCGGACATGCAGGTGTCCTTCGACCACGCACCGCACAACTTC}$ GGCTTCCGTTTCTTCTATCTTCACTACAAGCTCAAGCACGAAGGACCTTTCAAGCGAAAGACCTGTAAGCA ${\tt GGAGCAAACTACAGAGATGACCAGCTGCCTCCTTCAAAATGTTTCTCCAGGGGATTATATAATTGAGCTGG}$ TGGATGACACTAACACAACAAGAAAAGTGATGCATTATGCCTTAAAGCCAGTGCACTCCCCGTGGGCCGGG $\tt CCCATCAGAGCCGTGGCCATCACAGTGCCACTGGTAGTCATATCGGCATTCGCGACGCTCTTCACTGTGAT$ ${\tt GTGCCGCAAGAAGCAAGAAAATATATTCACATTTAGATGAAGAGAGCTCTGAGTCTTCCACATACA}$ $\tt CTGCAGCACTCCCAAGAGAGGGCTCCGGCCGGCCGAAGGTCTTTCTCTGCTATTCCAGTAAAGATGGC$ ${\tt CAGAATCACATGAATGTCGTCCAGTGTTTCGCCTACTTCCTCCAGGACTTCTGTGGCTGTGAGGTGGCTCT}$ GGACCTGTGGGAAGACTTCAGCCTCTGTAGAGAAGGGCAGAGAATGGGTCATCCAGAAGATCCACGAGT $\tt CCCAGTTCATCATTGTGGGTTTGTTCCAAAGGTATGAAGTACTTTGTGGACAAGAAGAACTACAAACACAAA$ ${\tt GGAGGTGGCCGAGGCTCGGGGAAAGGAGGCTCTTCCTGGTGGCGGTGTCAGCCATTGCCGAAAAGCTCCG}$ ${\tt CCAGGCCAAGCAGAGTTCGTCGGGGGGGCTCAGCAAGTTTATCGCCGTCTACTTTGATTATTCCTGCGAGG}$ ${\tt GAGACGTCCCCGGTATCCTAGACCTGAGTACCAAGTACAGACTCATGGACAATCTTCCTCAGCTCTGTTCC}$ $\tt CACCTGCACTCCCGAGACCACGGCCTCCAGGAGCCGGGGCAGCACGCGACAGGGCAGCAGGAAGGAACTA$ $\tt CCGACTGGTTCGAAAAGCAGTTCGTTCCATCCTCCACTGCGCTACCGGGAGCCAGTCTTGGAG$ ${\tt AAATTTGATTCGGGCTTGGTTTTAAATGATGTCATGTGCAAACCAGGGCCTGAGAGTGACTTCTGCCTAAA}$ ${\tt ACCAAGACGGGGAGGCCCGGCCTTGACGGTAGCGCCCCTGCAACCCCTGCTGCACACGGTGAAA}$ ${\tt GCCGGCAGCCCTCGGACATGCCGCGGGACTCAGGCATCTATGACTCGTGTGCCCTCATCCGAGCTGTC}$ ${\tt GATCTTGGTTGCCGCAGCTACACTGATGAACTCCACGCGGTCGCCCCTTTGTAACAAAACGAAAGAGTCTA}$

 ${\tt MPRASASGVPALFVSGEQGVGPASRNSGLYNITFKYDNCTTYLNPVGKHVIADAQNITISQYACHDQVAVT}$ ILWSPGALGIEFLKGFRVILEELKSEGRQCQQLILKDPKQLNSSFKRTGMESQPFLNMKFETDYFVKVVPF PSIKNESNYHPFFFRTRACDLLLQPDNLACKPFWKPRNLNISQHGSDMQVSFDHAPHGSDMQVSFDHAPHN FGFRFFYLHYKLKHEGPFKRKTCKQEQTTEMTSCLLQNVSPGDYIIELVDDTNTTRKVMHYALKPVHSPWA GPIRAVAITVPLVVISAFATLFTVMCRKKQQENIYSHLDEESSESSTYTAALPRERLRPRPKVFLCYSSKD GQNHMNVVQCFAYFLQDFCGCEVALDLWEDFSLCREGQREWVIQKIHESQFIIVVCSKGMKYFVDKKNYKH $\tt KGGGRGSGKGELFLVAVSAIAEKLRQAKQSSSAALSKFIAVYFDYSCEGDVPGILDLSTKYRLMDNLPQLC$ ${\tt SHLHSRDHGLQEPGQHTRQGSRRNYFRSKSGRSLYVAICNMHQFIDEEPDWFEKQFVPFHPPPLRYREPVL}$ ${\tt EKFDSGLVLNDVMCKPGPESDFCLKVEAAVLGATGPADSQHESQHGGLDQDGEARPALDGSAALQPLLHTV}$ KAGSPSDMPRDSGIYDSSVPSSELSLPLMEGLSTDQTETSSLTESVSSSSGLGEEEPPALPSKLLSSGSCK ADLGCRSYTDELHAVAPI.

Transmembrane domain:

Amino acids 283-307

N-glycosylation sites:

Amino acids 31-34;38-41;56-59;

113-116;147-150;182-185;266-269

Glycosaminoglycan attachment sites: Amino acids 433-436;689-692

cAMP- and cGMP-dependent protein kinase phosphorylation:

Amino acids 232-235

Tyrosine kinase phosphorylation sites: Amino acids 312-319;416-424

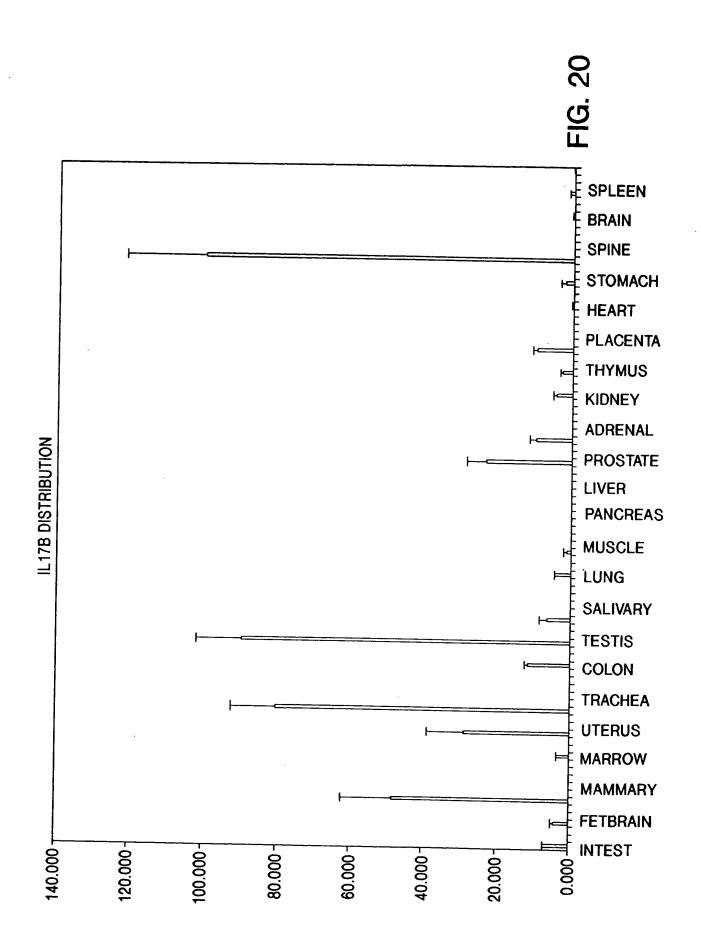
N-myristoylation site:

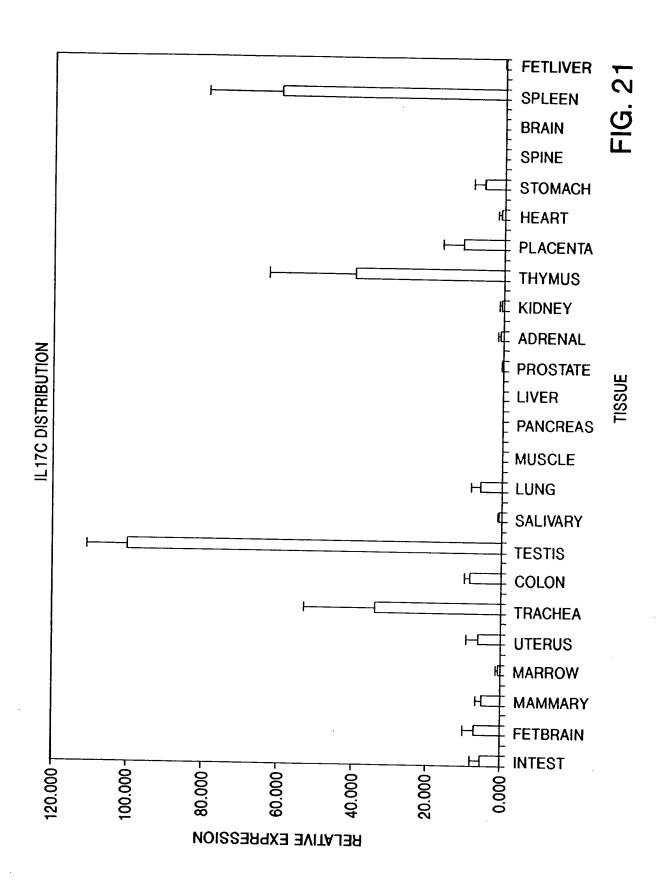
Amino acids 19-24;375-380;428-433;

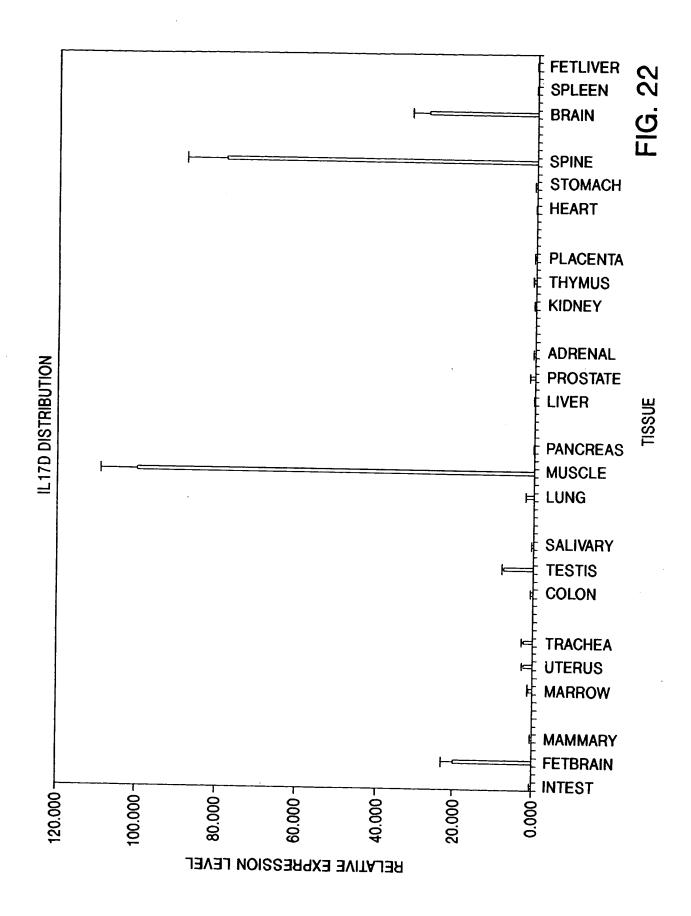
429-434;432-437;517-522;574-579;

652-657;707-712

h-IL17D 179 SINSSIDKQGAKLLGPNDAPAGPX







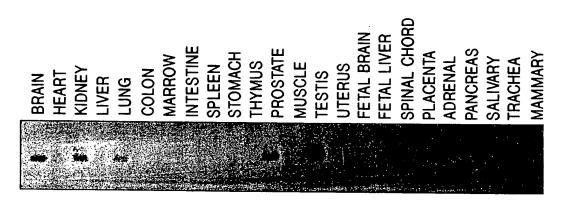
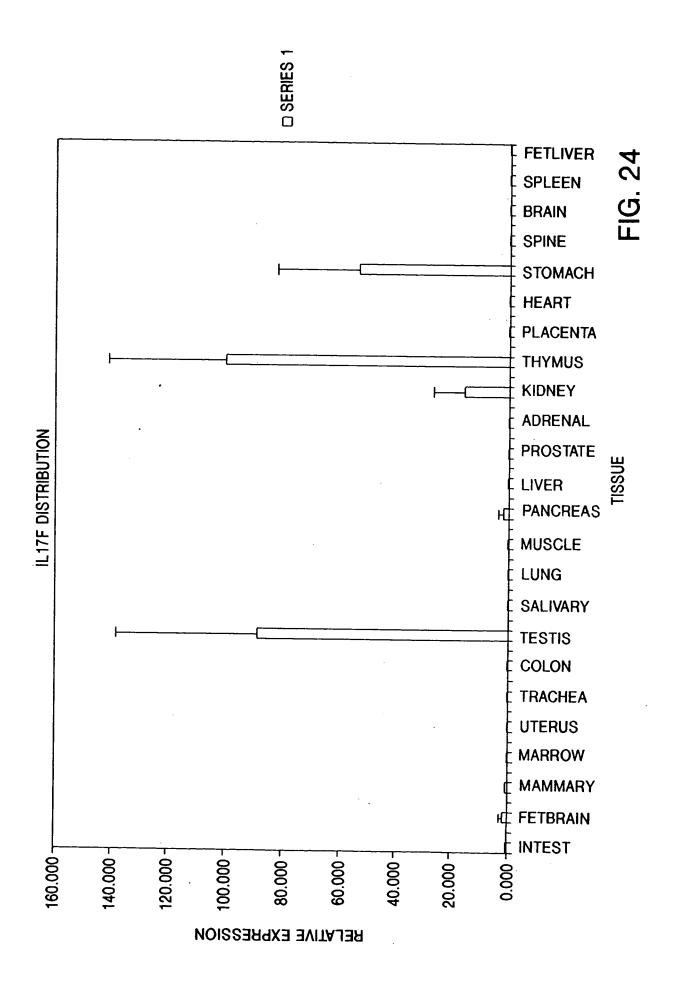
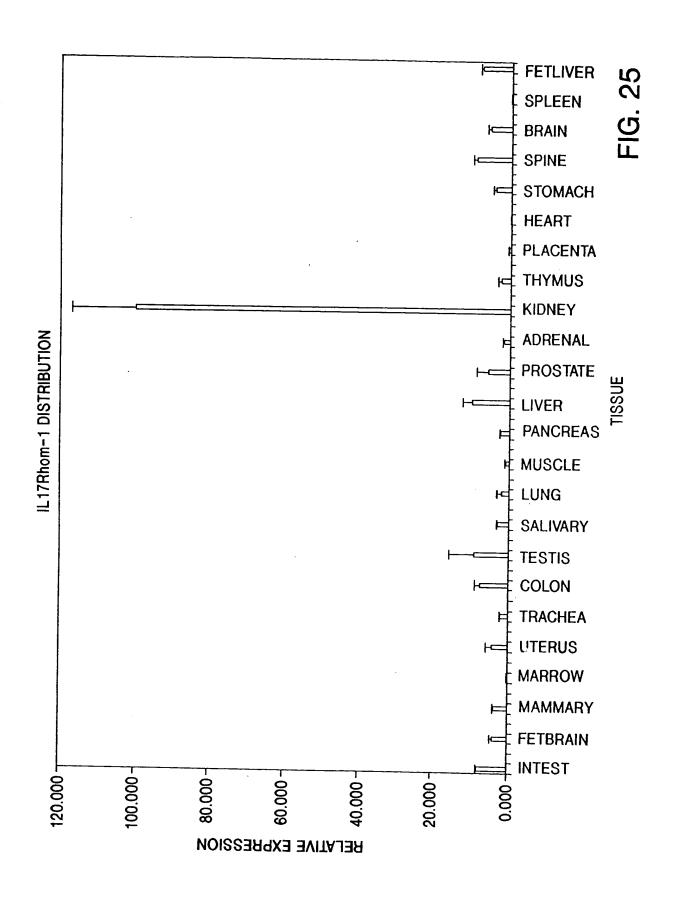
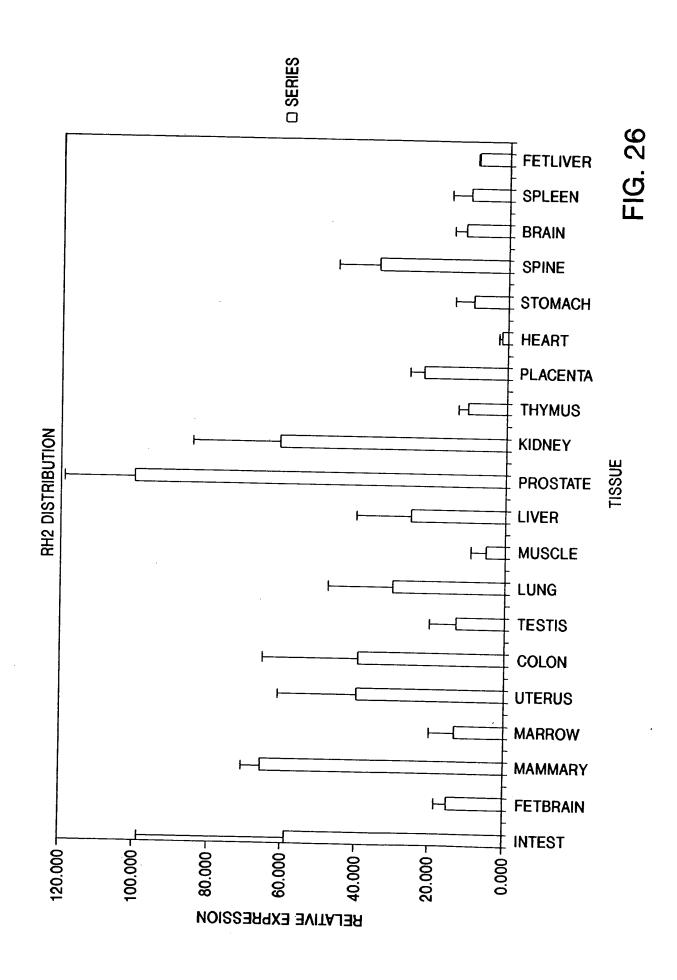
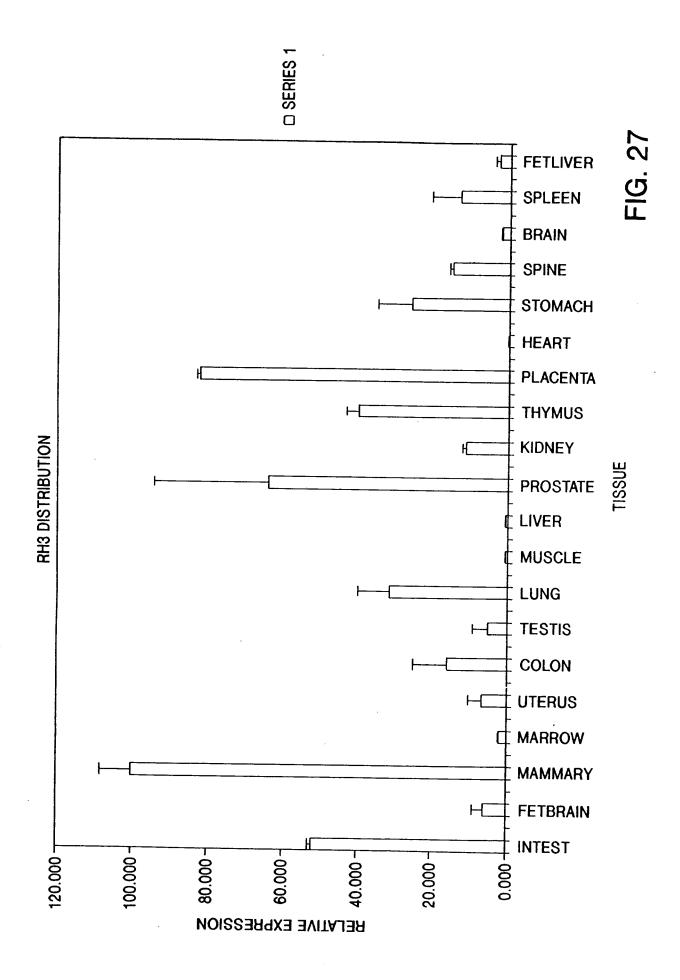


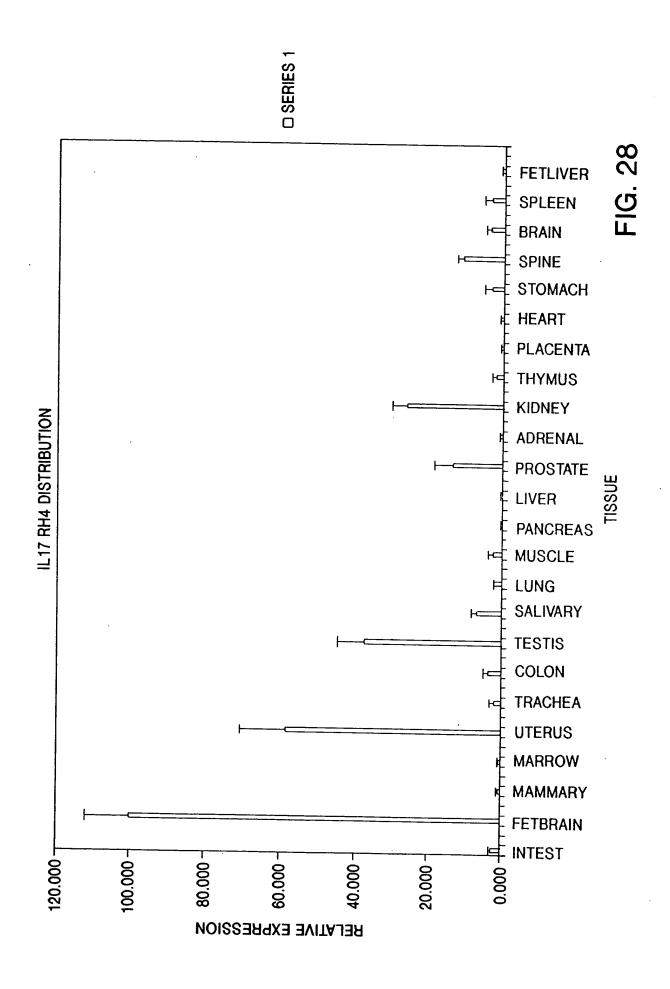
FIG. 23

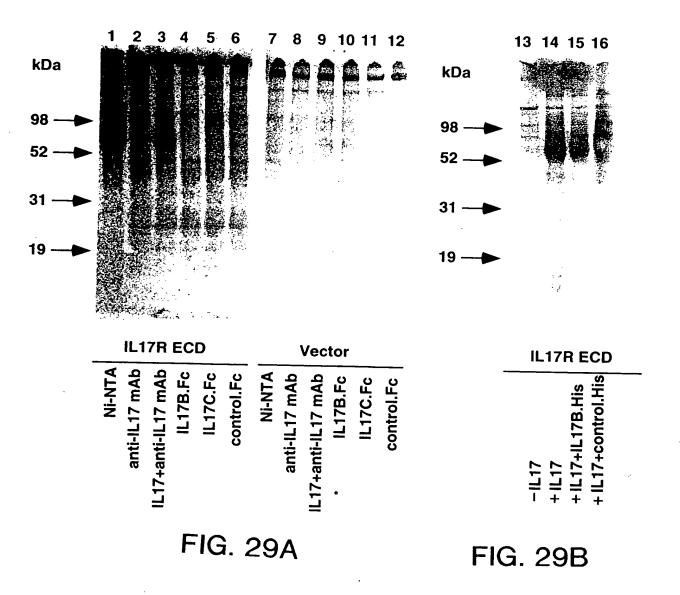












1 MTPGKTSLVSLLLLLSLEAIVKAGITIPR	30 · · · · · · · · · · · · N P GCPNSEDKNFPRTVMVNLNIHNRNTNTNPKR · · · · · · · · · · · · · · · · · · ·	63 - SSDYYNRSTSPWNLHRNEDPERYPSVIWEAKORHLGCINADG NVDYH 89 QLWMSNKRSLSPWGYSINHDPSRIPVDLPEARCLCLGCVNPFTMQEDRSM 97 LEADTHQRSISPWRYRVDTDEDRYPQKLAFAECLCRGCIDARTG - RETAA 79 - DGPLNSRAISPWRYELDRDLNRLPQDLYHARCLCPHCVSLQTGSHMDPR	110MNSVP 1 QQE 1 LVLRRE PPHCPNSFRLEKILVSVGCTCVTP 1 139V SVPVFSQVPVRRRLCPPP PRTGPCRQRAVMET 1 AVGCTC 1 F 146LNSVRLLQSLLVLRRRPCSRDGSGLPTPGAFAFHTEFIHVPVGCTCVLPR 128GNSFLLYHNOTVFYRRPCHGEK GTHKGYCLERRLYRVSLACVCVRPR	151V]НН V A 196S V 175V] M G
h-IL17 h-IL17B h-IL17C h-IL17E	h-1L17 h-1L17B h-1L17C h-1L17E	h-1L17 h-1L17B h-1L17C h-1L17E	h-IL17 h-IL17B h-IL17C h-IL17E	h-1L17 h-1L17C h-1L17E

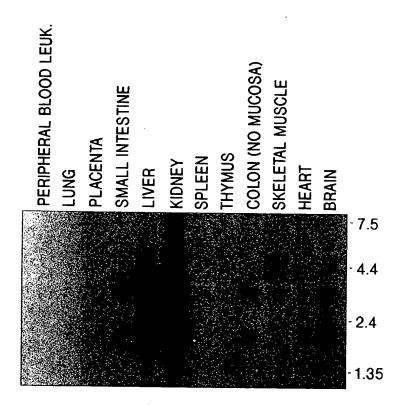


FIG. 31A

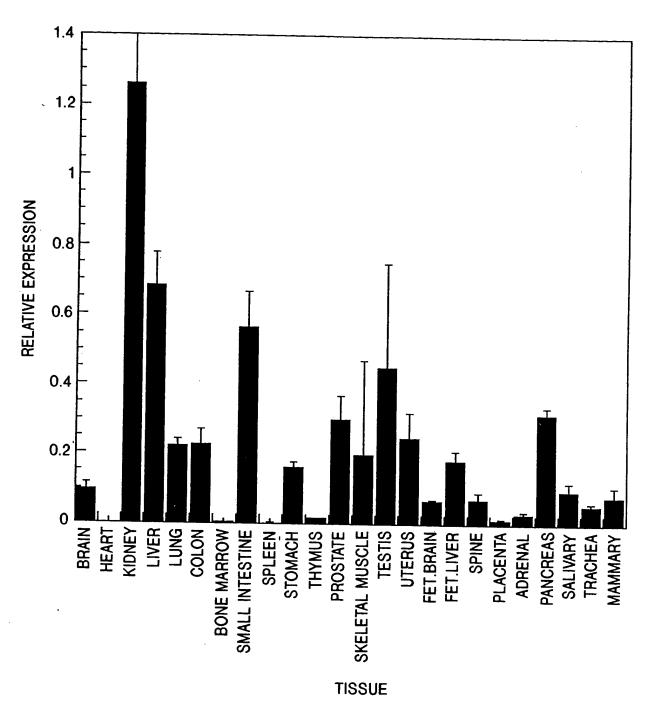
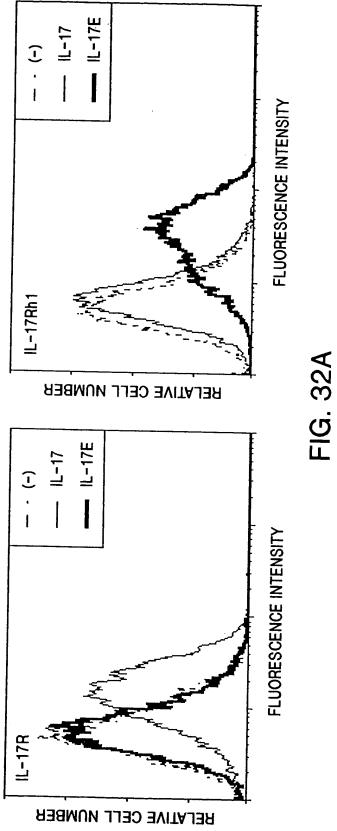


FIG. 31B



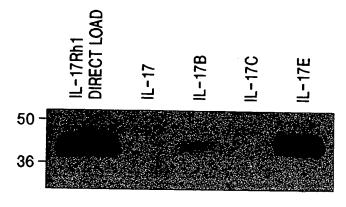
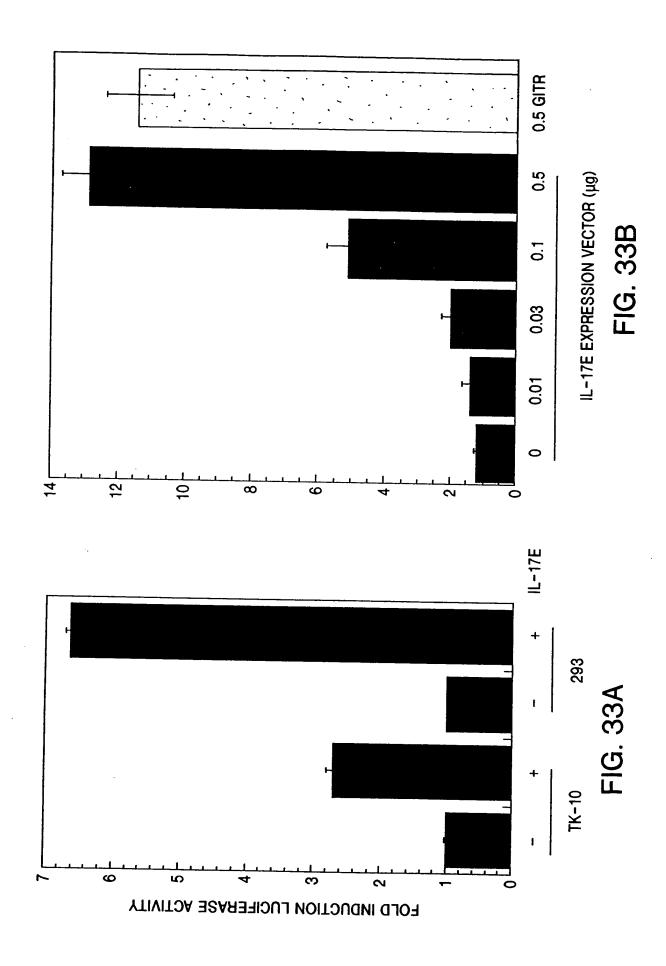


FIG. 32B



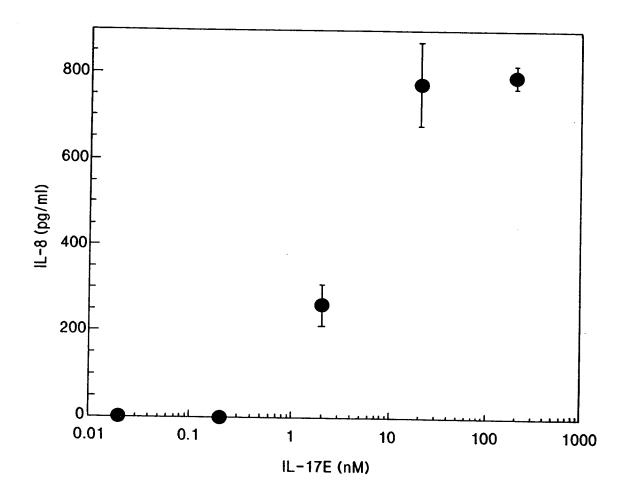


FIG. 34

IL-17 FAMILY OF CYTOKINES HAS COMPLEX PATTERN OF OVERLAPPING RECEPTOR-LIGAND SPECIFICITIES

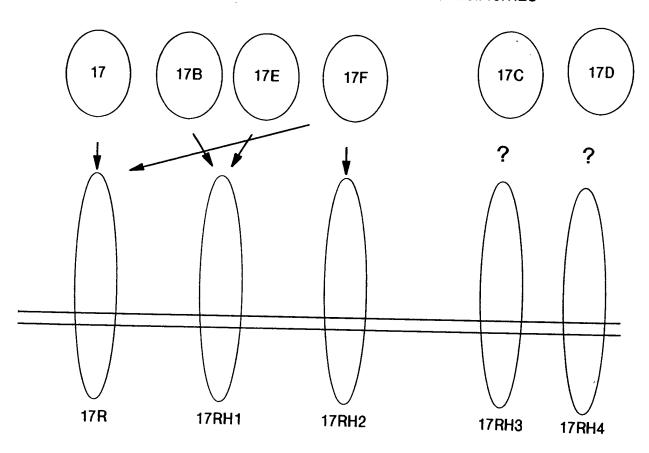
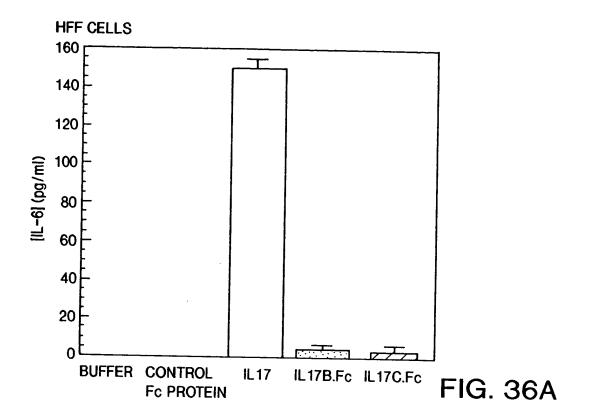


FIG. 35



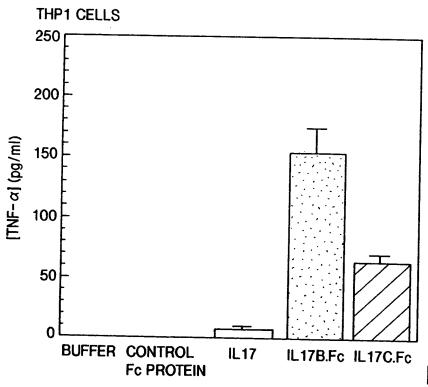
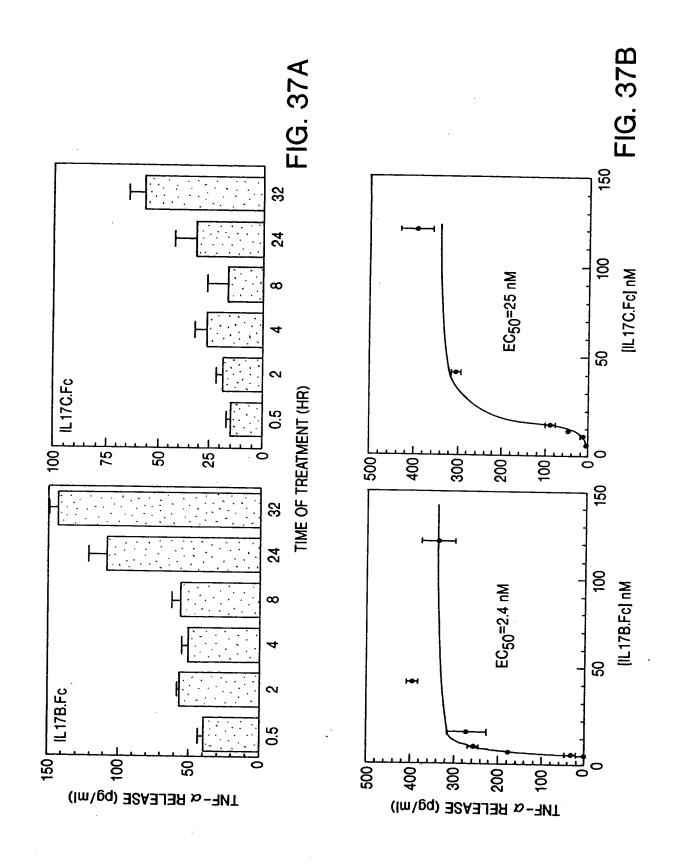


FIG. 36B



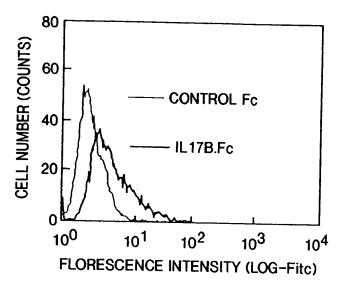


FIG. 38A

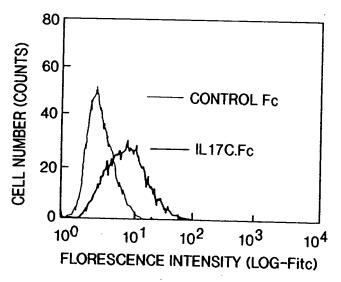
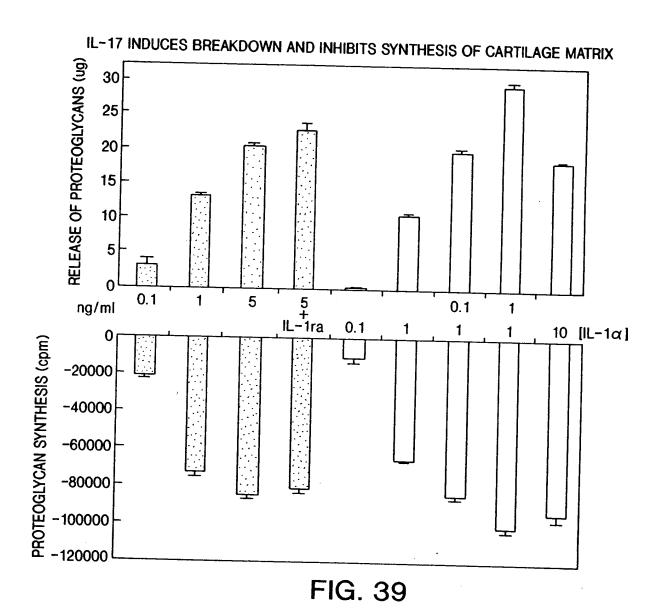
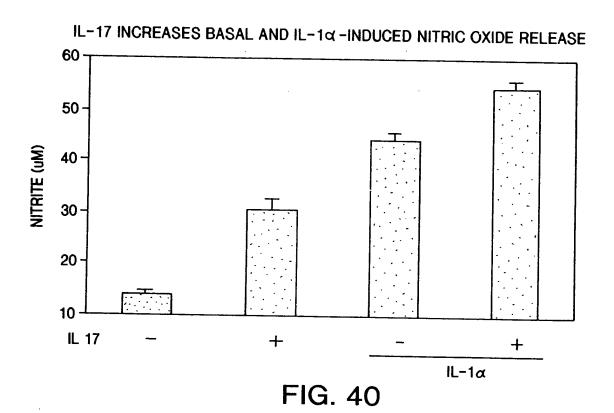
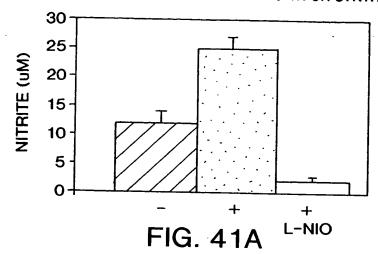


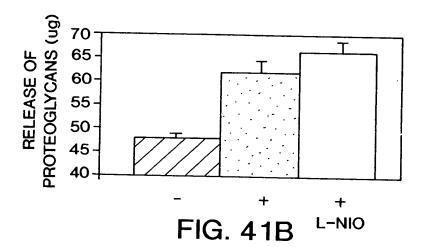
FIG. 38B

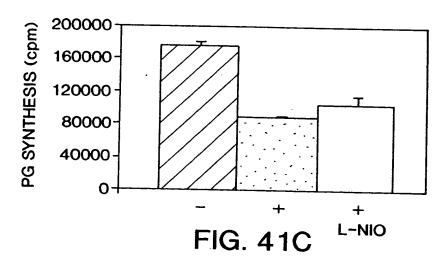




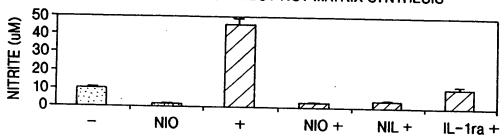
INHIBITION OF NITRIC OXIDE RELEASE DOES NOT BLOCK THE DETRIMENTAL EFFECTS OF IL 17 ON MATRIX BREAKDOWN OR SYNTHESIS

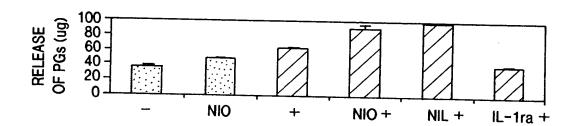






INHIBITION OF NO RELEASE ENHANCES IL 1- α -INDUCED MATRIX BREAKDOWN BUT NOT MATRIX SYNTHESIS





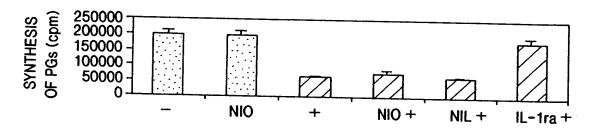
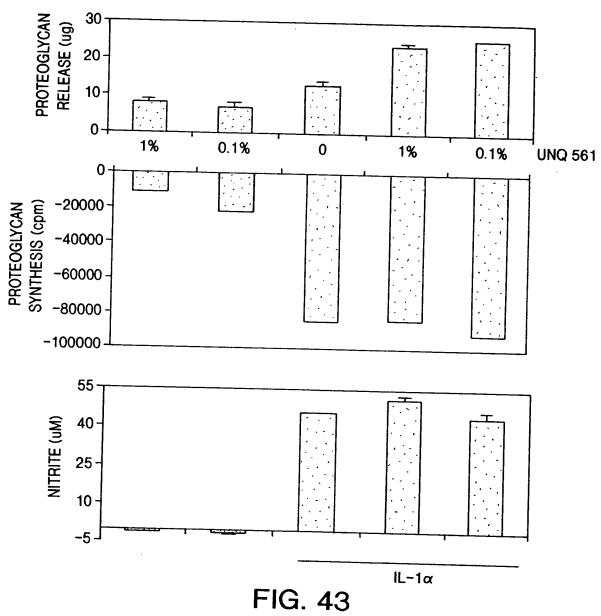


FIG. 42

IL-17C DETRIMENTAL EFFECTS ON ARTICULAR CARTILAGE

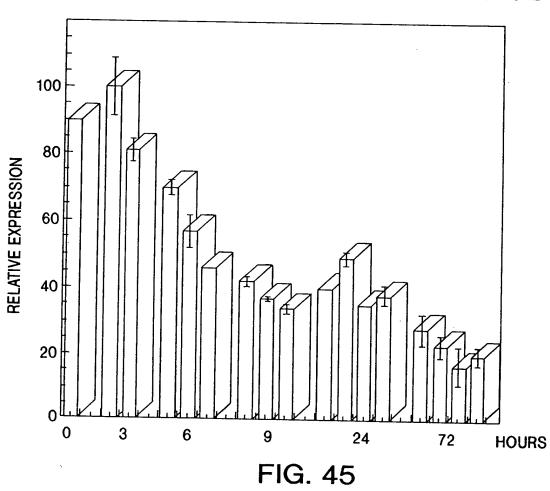


n.d. EXPRESSION OF IL-17 FAMILY IN MOUSE MODEL OF IBD SEVERE INFLAMMATORY BOWEL DISEASE: × 5 15 9 2 -20 -DELTA CT RELATIVE TO GAPDH

Ø IL-17 □ IL-17E

■ IL-17B 図 IL-17D

IL-17D, PRESENT IN BRAIN, DECREASES RAPIDLY FOLLOWING STROKE



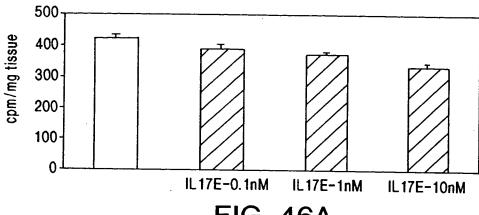


FIG. 46A

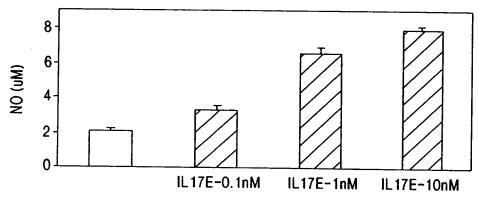


FIG. 46B

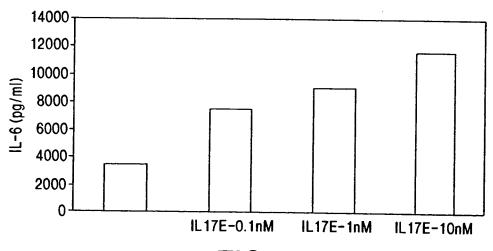
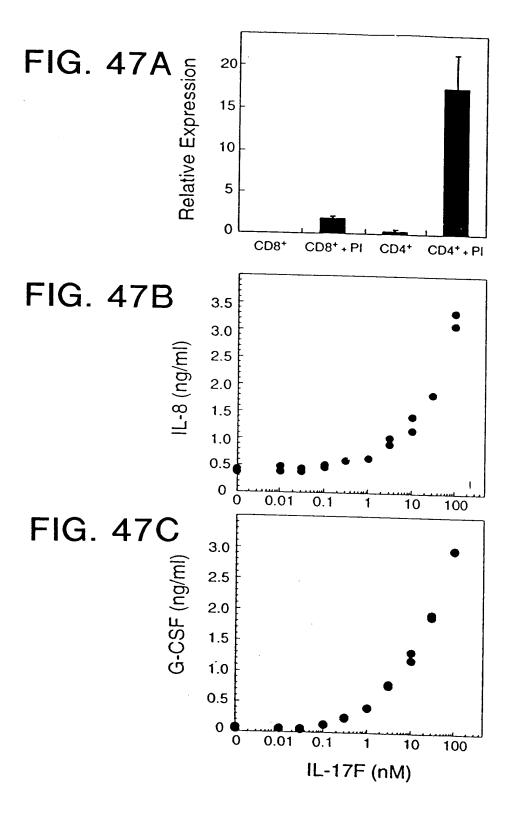
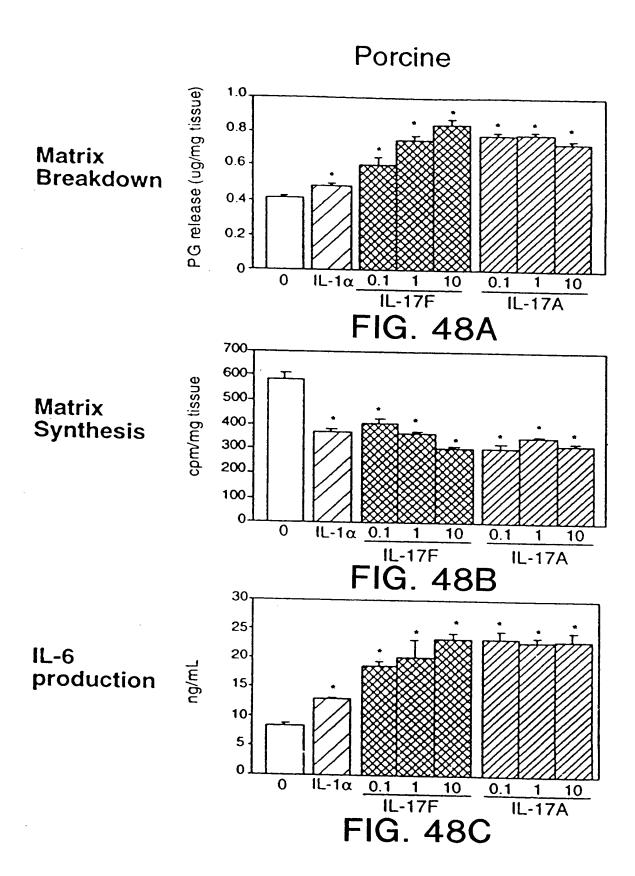
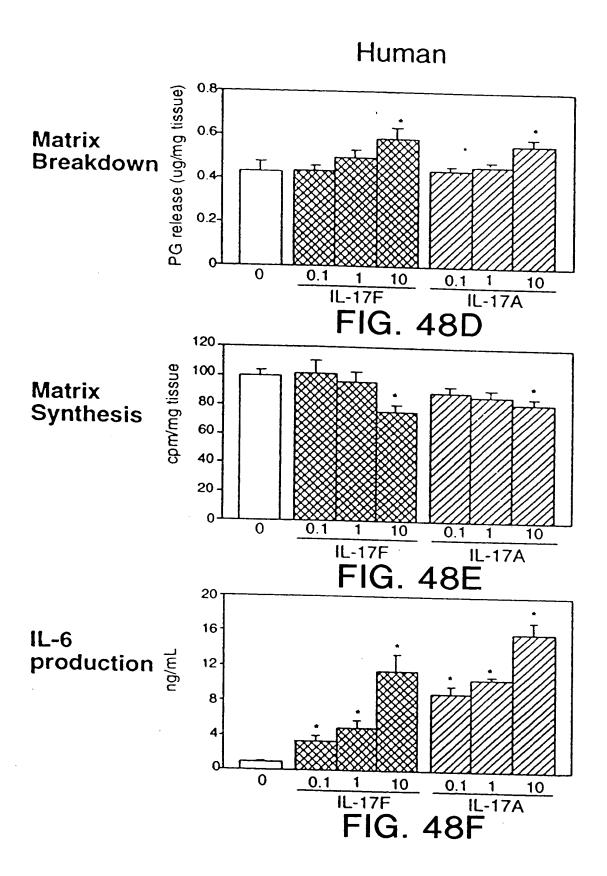
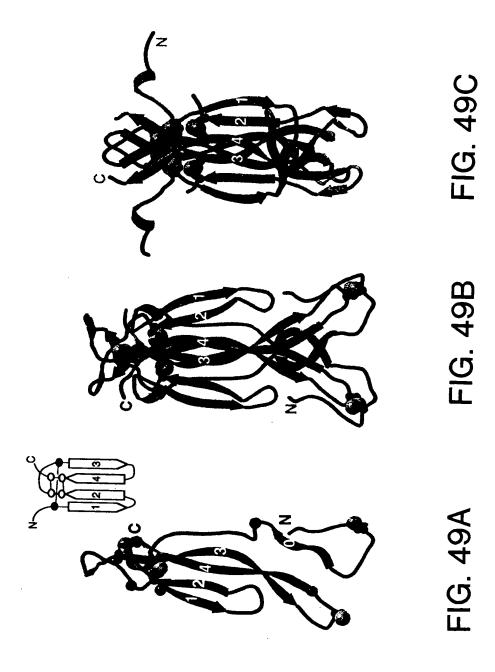


FIG. 46C



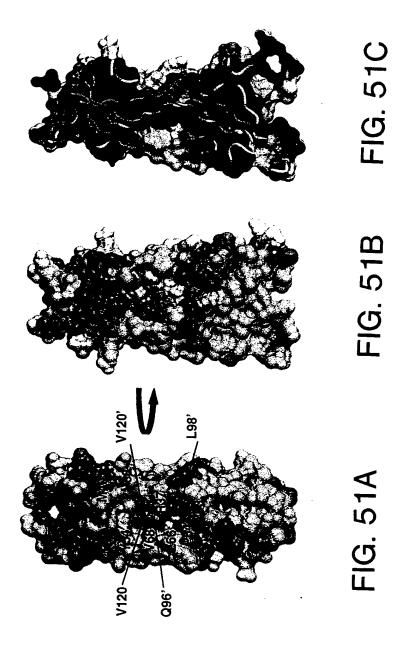


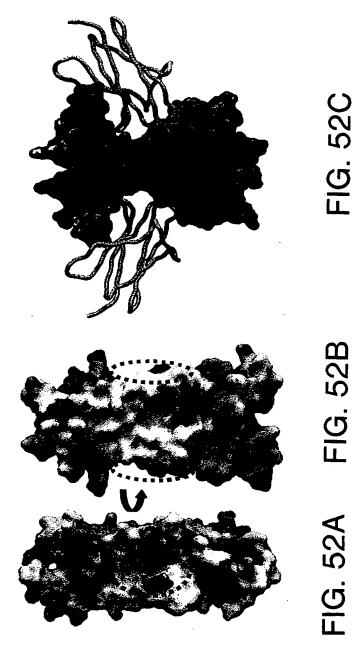




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11-17E	•••••••	••••••	• • • • • • • • •	RKIPKVG	HTFFQKPES	17
		. 		نے دوستہ واتی		ė,
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TH-T/E	•••••••	••••••	···········YS	HWPS PSKG	ODTSEELLRW	22
		6 0	DXMC4445			-
IL-17F	PPVPGG	SMKLDI	GITNENORVE	MODNITOSON		
	E NOGUNDE PR	TVMVNINIHN			Secretary Secretary	2
,_	MITERIANOUS	NSSKLAOR	K-A-TF-17 STT		2012/2012/2012	i.
	NOVING WHEN A	ABRPBATT	O *PUT.D DESTR		200	
IL-17E	STVPVPPLEP	ARPNRHPE	S BY CE	TEVNITUÂYST	PWRYRVDTD	
			D34404	.DGPLNSKAI	PWRYELDRD	65
		2				
IL-17F	PNRYPSEVVQ	AQ RNLG IN	A. OGKEDTS	MN SIDI OOF		
IL-17E	LNRLPODLYH	AR LEPH VS	TOTASHMA	ON BLITTON	LLVLRRRP	144
				OMELILE NO	TVFYRRP	112
	*		4			
[L-17F	esv	SPOLER	VIVIVEC	F-ARTINITY TEST		
L-17A	GPN.	CPDIPP		- CONTRACT - CANONICAL		133
L-17B	PPPPRTGP	GRQRA PGAFAFHTEF	TAMPET AND	CATE T AHHAY	• • •	136
L-17C	SRDGSGLPT	DGY AN MANAGED	AMELIAVG	GTE.	• • •	160
L-17E	HGEKGTHKO	·····Y-LER	THE CONTRACT OF	LPRSVAA	ALE	184
		:	THIRK STAFT	SYKERVMG	• • •	145

FIG. 50





IL-17E is highly conserved between human and mouse

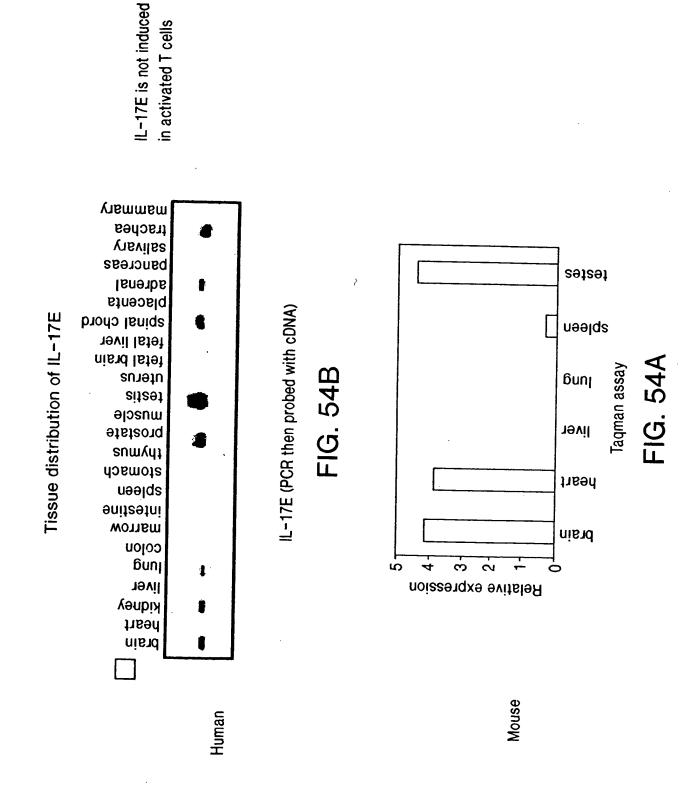
CPS - YSHWPSC ---VAFLAMIVGTHTVSLRIQEGC FLQVVAFLAMVMGTHT SL Н SL Ø 田口 Ö RL MRERP mlL-17E

P WR 35 KEQEPPEEWLKWSSASVSPPEPLSHTHHAESCRASKDGPLNSRAISPWS 43 KGGD T SEELLRWST VPVPPLEPARPNRHPESCRASEDGPLNSRAIS mL-17E

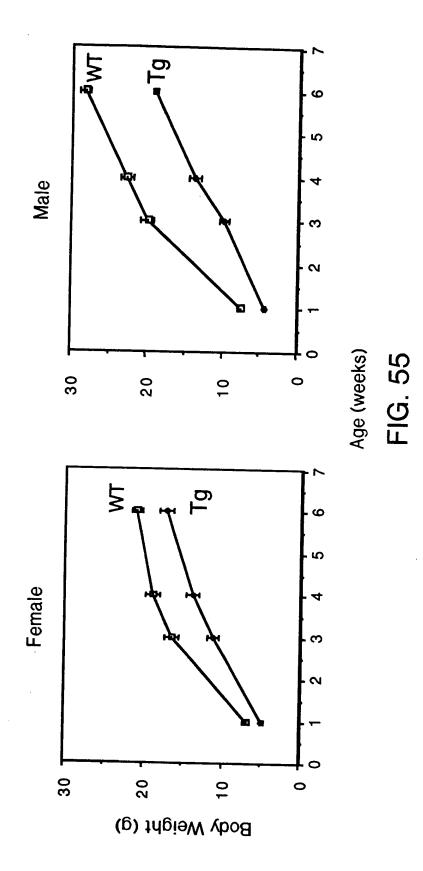
85 ELDKDLNRIVPQDLYHARCLCPHCVSLQTGSHMDPLGNSIVPLYHNQTVFYR 93 ELDRDLNRLPQDLYHARCLCPHCVSLQTGSHMDPRGNSELLYHNQTVFY mlL-17E

CLEKKLYKVSLACVCVKPKVMA RVMG **GTHKGYCLERRLYRVSLACVCVRP** GTHR RE 135 КРСИ G E|E| 143 RPCHGEK ml.-17E

FIG. 53

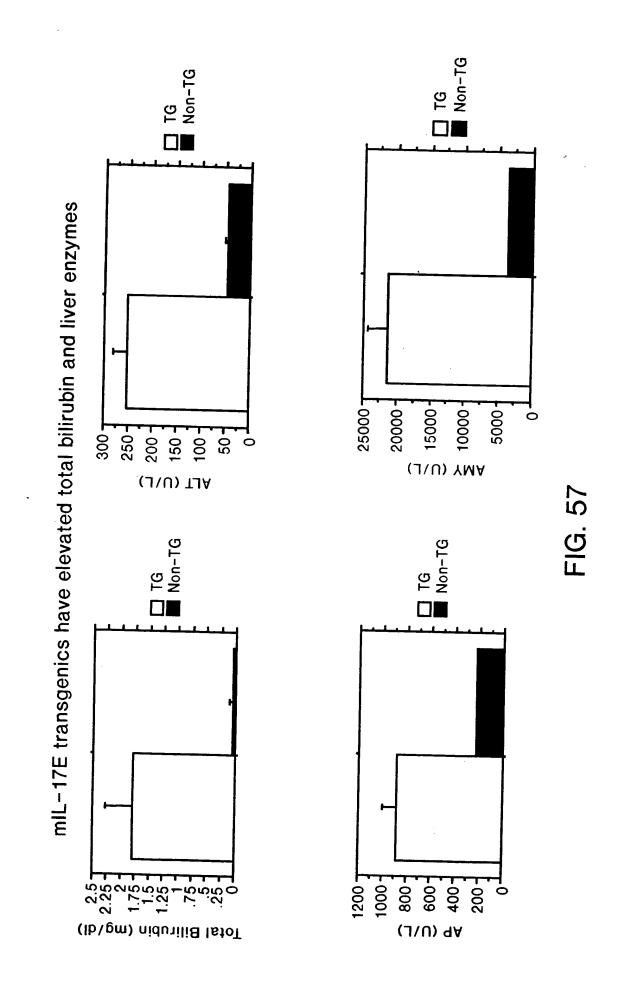


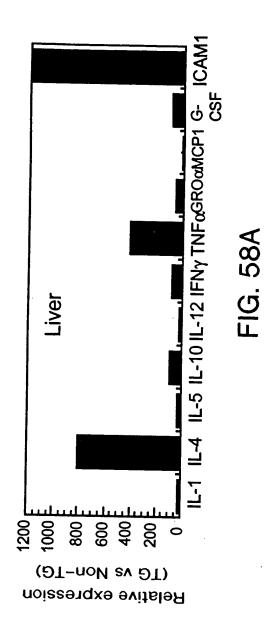
mIL-17E transgenics are growth retarded



IL-17E transgenics are jaundiced by 6 weeks of age \nearrow TG

FIG. 56





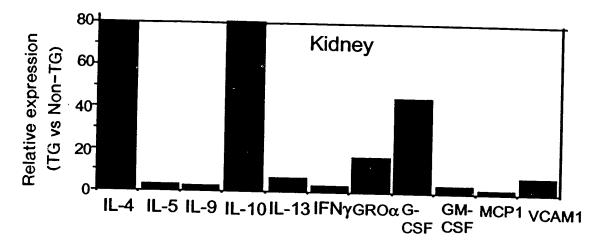


FIG. 58B

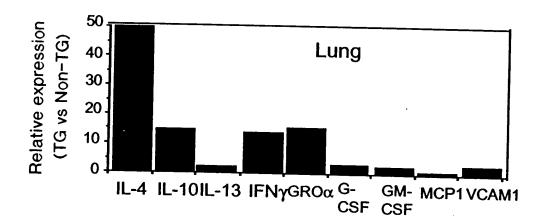
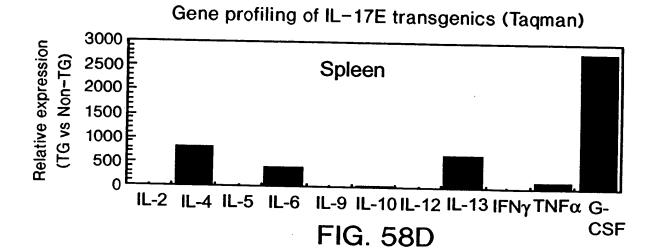


FIG. 58C



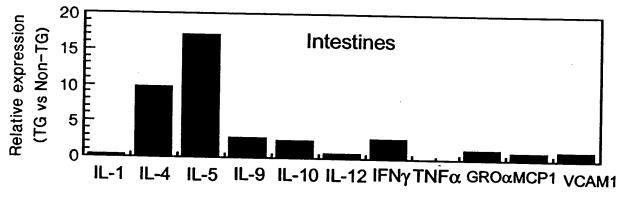
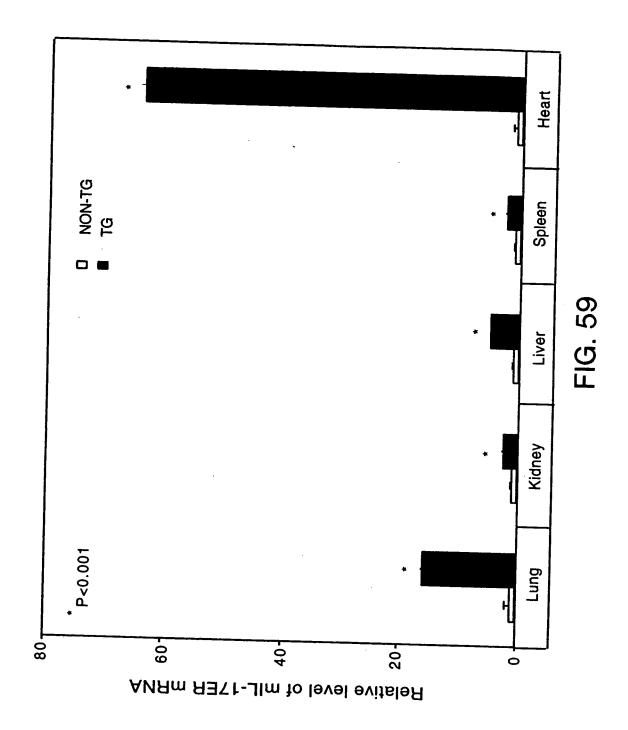
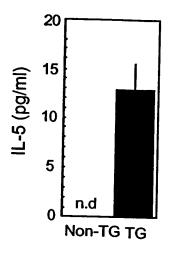
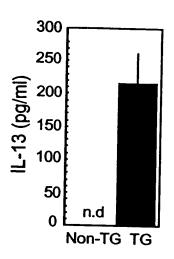


FIG. 58E



Elevated serum IL-5, IL-13 and TNF α in mIL-17E transgenics





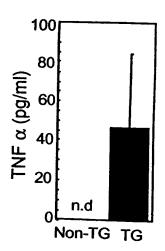
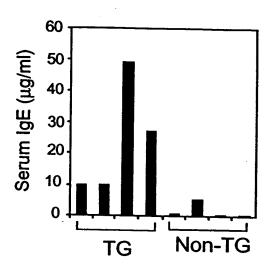


FIG. 60

Serum IgE and IgG1, but not IgG2a is elevated in mIL-17E transgenics



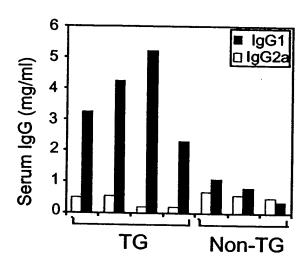
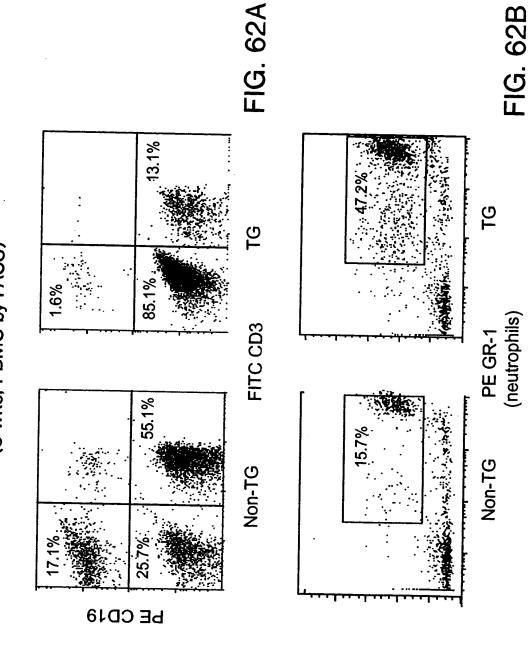


FIG. 61

Neutrophilia in mIL-17E transgenics (8 wks, PBMC by FACS)



Neutrophilia and eosinophilia in mIL-17E transgenics (hematology)

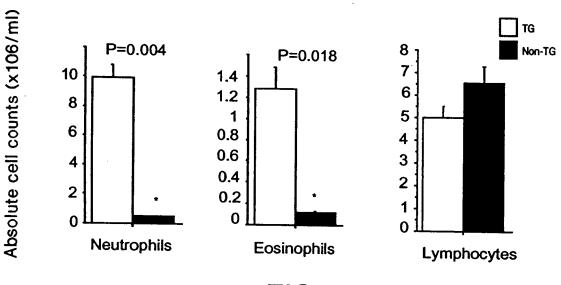


FIG. 63

G-CSF is elevated in mIL-17E transgenics

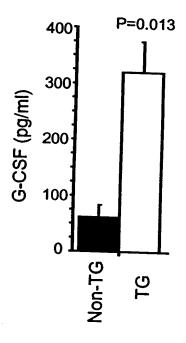


FIG. 64

IL-17E induces production of G-CSF in vitro

